/438 cont./ 1. The Bark Canoe

484 505 On land our Yamana do not undertake long marches, but content themselves with the walking necessary to gather wood or shells and to get game. Their territory is not suitable for land journeys. Without exception, they travel from one island to another, from one shore to another, in their bark canoe. Even though they /439/ could go a long distance along the beach, they prefer to travel by water which is easier and more comfortable. The canoe is absolutely indispensable for them. In case an individual family or small group have lost this vessel, they find themselves in a state of emergency which they must remedy, the sooner the better and absolutely imperatively. As water nomads they could not, under any circumstances, forego this method of transportation for any length of time (120).

120. The indispensable importance of the canoe for our natives has been variously stressed. Spegazzini (a): 161 calls it "the object of greatest importance" /translated from Spanish/ and Dabbene (b):180 "an object of prime necessity for the Yahgan" /translated from Spanish/. Other opinions are of a similar nature.

•501 The method of canoe construction is somewhat peculiar and differs at first glance from the boats of other peoples. The products of the country, which in themselves are meager, are chosen with intelligent circumspection and used, each in its way, to turn out a resistant and durable vessel. As a whole it looks graceful, its form is pleasing. In its details it shows taste, and its lines are agreeable.

Regardless of many minor details, it strikes everyone who judges it as a masterpiece of efficiency and a supreme achievement of the technical ability of these Indians (121). Everyone is not

121. Lucchan:8 came to the following conviction: "In comparison with [the skiff-like

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/439 cont./

vessels of central Brazil], the boats of bark with which we are familiar in the extreme south of South America are veritable luxury barks, though they are still far behind those of the North American sea region with regard to beauty and careful workmanship." But the Indians of North America have incomparably more suitable raw material. In this description by Lumholtz, Figures 12 and 13 show one of the well-known small models which are erroneously captioned or described as "Model of a Bark Boat of the Ona."

Other observers also are unstinting in their praise of the bark canoe. Spears: 56 says: "It had a sheer at once pleasing to the eye and well adapted to ride the most tempestuous seas in the world" /cited in English/. Lovisato (b):134 concludes his brief but detailed description thus: "These canoes, poor as they are, are certainly the most ingenious work of the inhabitants of Foegia, but from Drake's time to ours, about 300 years, it has remained the same" /translated from Italian/. No improvement to speak of has been found necessary in any part and has, therefore, not been made.

equally skilled at canoe-making, but one who is able to achieve a faultless one is universally highly esteemed. What Despard (b): 679 has summed up in a few words is pertinent here: "The manufacture of a canoe is a most important work; on it chiefly depends their subsistence; to excel in it is a coveted distinction; to have effected it marks manhood; to accomplish it taxes strength, skill, and time" /cited in English/. This object, vitally important for our Indians, deserves to be described in detail. In doing so, we unintentionally grant them high praise for their skill (122). /440/

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122. It is strange that earlier travelers have repeatedly emphasized the graceful construction

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/440 cont./

and the great efficiency of the bark boat, but have described the details only very superficially. Cooper: 197 simply listed the bibliography of the best descriptions.

[171] We should like to mention briefly that this bark canoe, šuan (or, more completely, ajyáka šuan), is actually very similar in its design and principal parts to the one that the neighboring Halakwulup make (Fig. 28).

a. The Bark Pieces

396 The vessel characteristic of the Yamana since ancient times is a canoe made out of three large pieces of bark. This is the one we shall describe in what follows. Most of our natives have in most recent times turned to the canoe made out of a single trunk [177] and to the flat boat, but this happened only since Europeans brought them the iron ax.

396, 313 The entire region is more or less densely supplied with Antarctic beeches, but straight, thick trunks that furnish a smooth, even sheet of bark of sufficient length are found only singly and usually deep in the interior of an island. To discover these is probably the only reason a man is obliged to venture deep into the forest. Usually two or three men join together in the search, if for no other reason than because it is difficult for a single man to loosen the thick bark, ajyáka, from the trunk and because no one goes alone for great distances in the woods (133). This traveling

133. As Hyades (4):380 says: "the chief concern of the Fuegians is to select the best bark; it is often necessary for them to take a long journey to find it" /translated from French/. Despard (3):479 adds: "a man, having associated three others, proceeds into the forest for four or five miles" /cited in English/.

hither and yon is frequently laborious and requires great effort. They almost always decide on Nothofagus betuloides, ú·Ci, which

Fig. 25. Bark Canoe

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Castaño--113 E-0 (1918-1924) 1927 SIM Tshgan 5/16

396 /447 cont./
sit that is as dry as possible (134).

134. The word given above, according to BD: 283, means "those pieces of bark placed in canoes where the people sit to strengthen the canoe and to guard it from injury, as well as to give comfort to the occupants" /cited in English/.

The canoe is now finished. It takes an industrious man two to three weeks, if he can continue his work undisturbed and if he finds the necessary parts nearby. He always works in the shade, for the rays of the sun would heat the pieces of bark and distort them. The proportions of this vessel depend on the number of members in the family, but the length never exceeds five meters in a straight line between the two extremities. The widest part from one gunwale to the other is under one meter; the depth in the center fluctuates around 70 centimeters (135). /448/ If we

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135. Bove (e):157 and Colini: 162 write: "The length varies between four meters and six meters, the width between 70 centimeters and 90 centimeters."

compare the canoe of the Yamana, Énan, with that of the Halakwulup, we surely cannot overlook the differences in dimensions; the former is noticeably shorter and narrower, even somewhat flatter than the latter (136).

136. More or less detailed descriptions of the bark canoe can be found in Bridges (i):23, Bove (d):291 and (e):157, Cañas Pinochet: 266, Cojazzi: 168, Dabbene (b):180, Despard (b): 678, Fitz-Roy (a):140, Hyades (d):260, Lothrop (b):143, Martial:190, Spegazzini (e):161, Stirling in VSA:XI, 237, 1864, Webster: I, 194, Weddel (a):94, Wieghardt:30, and others. The individual parts used in it are listed in BD, and the kinds of handwork performed are named.

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/448 cont./
Hyades (q):305 collected and wrote down many terms.

γ. In Accessories

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The Fuegian family spends more than half the days of the year and most of the hours of a day in the canoe. Since they travel restlessly from one camping place to another, they always take all their /Fig. 28 appears here/ belongings, little though

E-93

Fig. 28. Leather Hand Protector.
Two-thirds natural size.

that is. For the man his weapons are indispensable, and the woman must always have a few little things handy. We shall not speak of all these things here, but rather, only those that are indispensable adjuncts to an ánan (137).

137. Lothrop (b):143 says: "When fully equipped, the Yaigan canoe carried the following articles: two or more paddles, three kinds of baskets, two fire-tongs, four spears (fish, seal, crab, and limpet), dipnet, club, grass mooring rope or thong, bark bucket, fish-line" /cited in English/.

/448 cont./

396 The oars are regarded as part of the most essential equipment. The man makes them of beechwood for his wife. With a bone wedge (Fig. 36), he splits a trunk about 20 centimeters thick into a plank that he cuts and planes with sharpened pieces of mussel shells. In order to be able to grasp the shafts better and
396 also to protect his hand against wood splinters, he uses a scrap
293 of leather which is like a mitten (Fig. 38). It is cut nearly trapezoidal in shape from the thick hide of a sea lion, and the two corners of one of the narrow ends are tied together with a little bundle of rushes. This makes a narrow opening through which one sticks the three last fingers of the right hand. The little piece of leather now covers the entire back of the hand and these three fingers, so that they are adequately protected.

/449/ Planing and smoothing the wood is an irksome task.
396 Particular difficulties are encountered at the place where the
301 shaft runs out from the blade because at that point the blade is usually left wide and has an edge. In most of the oars, all of which lack a special handle, one part gently and gradually leads over to the other; they are lancet-shaped, so to speak. The shaft is about a third of the entire length. It is noteworthy that the blade is never sharply differentiated from the shaft, but more or less gradually runs into it (138) and rounds off more narrowly

138. This very strikingly distinguishes it from the woman's oar of the Halakwulup, which has an absolutely rectangular blade, as I duly showed (Gusinde [4]: 347). The measurements for the oars of the Halakwulup are also larger as a whole. Pickering:19 had already observed: "The [Yamana-] Fuegians [are] making the blade [of the paddles] even narrower than do the North-western tribes" /cited in English/.

at the end. The center of the blade is always thicker than the edges and has a completely flat center rib. /Fig. 33 appears here./ Lothrop (p.147 says briefly: "The old-fashioned paddle had a long pointed blade and a short rounded handle. The blade

/649 cont./

was diamond-shape in section, so there was a rest-like ridge centrally down each side" /(sic) in English/. The length is never uniformly determined, but depends on the accidental length of the plank, varying by 150 centimeters. The blade measures about ten centimeters at its widest point. The husband adjusts the thickness of the well-rounded blade to suit his wife's wishes (Fig. 28).

If necessity or danger during a trip should force a man to take an oar, he handles it in the same manner as the women. He does not, however, have his own oar, as Colini (37) erroneously maintains.

Fig. 28. Oar Forms.

The most common designation for these oars, or called paddles, is *kopi*; they are also called *mesikpa* and *shelina*. Every family carries at least two oars in their vessel.

During the long trips our natives cannot possibly do without the fire. They keep it burning constantly in the canoe (p. 64). In the center of the bottom there is a specially prepared hearth, and adequate care is taken so that the bark underneath does not burn through. On the bottom they place a few flat stones close together so that there are no gaps. /(65)/ Upon this layer they place a rather large clump of turf which is at least seven centimeters thick, and its tangle of roots and coarse pebbles is turned upward. An alternative is to form a layer out of crushed mussel shells mixed with pebbles and lumps of clay. There is constant and ample moisture from the water that oozes in from below; hence this thick layer cannot become hot, and there is still less possibility that the bark floor can burn through. Since air has free access from all sides, the fire cannot flare up

/450 cont./

506 372 581 to a high flame. This must be avoided at all costs, so that the side walls will not be endangered. A moderate glow without a leaping flame suffices.

525 372 The firewood is kept partly near the hearth, partly in the stern. It has been stacked in orderly fashion to save space. The people of the west must always take along large amounts of wood; a small supply is adequate for the people of the east, which they pile up near the hearth. Wherever the latter land, they easily find dry driftwood, whereas the former cannot count on this. Quite dry wood has been carefully chosen for the trip, since damp wood causes smoke which the occupants in the cramped canoe can hardly evade. As a matter of course they leave the wood of Drimys winteri, which gives off a thick, biting smoke, behind on the shore.

The girls squat near the fire and tend it according to instructions from their mother. It is their task before the departure to carry a glowing log from the hut-fire to the hearth in the canoe and to fan a new flame. When they land, another glowing stick of wood from the canoe serves to kindle the fire in the newly erected hut. With scrupulous care they extinguish every spark from the fire in the vessel so that there is no danger of its bursting into flames.

501 415 Even the most careful canoe construction does not prevent some water from constantly oozing in between the seams (130).

130. In Wieghardt:31 and elsewhere we read: "So much water constantly comes in that the people continually have to bail it out" /translated from Spanish/.

It collects near the hearth at a place that has been purposely left open, that is, the space of a hand's breadth between the loosely laid bark pieces, Yag. The girls bail it out with a special scoop made either of bark or seal leather. For both kinds one first cuts out a rectangular piece which is then bent, the bark piece in the direction of its longitudinal fibers. After the two straight edges are joined with a strip of whalebone or a few rushes, making a seam, a bottom is cut out to fit this cylinder, which is also sewed on. Not infrequently a small handle of rushes is added in the

/450 cont./

•501 415 center of the longitudinal seam. Such a tiny does not have to be made watertight; small amounts can easily be scooped out if one uses it often and quickly. The girls /451/ even find this to be fun. The size and diameter of this scoop (Fig. 30) are a matter of chance. Some are 12 centimeters, others 22 centimeters high, and most of them fall between these two sizes. The leather ones are more durable than those commonly used made from the bark of Drimys winteri or Maytenus magellanica. The latter, however, are easier to hold (140). Several of these scoops lie about in every canoe. /Fig. 30 appears here./

140. Hyades (q):207 gives several details about these scoops. To speak of "shovels made of tree-bark," as Bove (c):187 does, is not correct. See Lothrop (b):147.

Fig. 30. Scoop Made of Drimys Bark. One-half natural size.

501 253 The last item of the accessories that we must mention, which, however, is sometimes lacking, is the rope of rush mats that Hyades (q):614 calls "plait of rushes" /translated from French/. It is a simple braid of three

Fig. 31. Rope Made of Marsippospermum. One-half natural size.

strands and is at least 180 centimeters long (Fig. 31). There is a knot at either end to keep it from becoming unbraided. This rope

/451 cont./

• 581 283 is always left in the canoe, either rolled up in a ball or wound into a few coils. It is used where steep banks make it impossible to draw the vessel onto land. One end is knotted to the first or second crossbar, *wiŋga*; the other is wound around a stone or a tree trunk. This rope, which is not very strong, is used to fasten the canoe only in very quiet waters to prevent the boat's being carried off by the ebb and flow of the tide. Because of its lightness, it is much more suitable for this purpose than a heavier leather thong would be (141).

141. In his view, Snow (x):31, 14 called attention to it: "The ropes they had to fasten their canoes were made of grass rudely plaited" /cited in English/.

581 962 The few items listed here, oar, hearth, scoop, and rope are necessary adjuncts or accessories of the vessel. /Fig. 31 appears here./ The woman has charge of them also, and she uses to their replacements so that she will not at some time be seriously embarrassed or endangered.

/451/ σ. Its Efficiency

585 Their restless, wandering life forces the Yamana to carry with them wherever they go all their material possessions, without exception. These do not necessarily belong to the canoe, but no one can part with them. They are distributed in such a way that the man keeps his weapons in the bow, and the woman has all the other implements and little baskets, skins, and pieces of meat in the stern. The children occupy the center section. Except for the insignificant rattles which they hang on their bodies, they do not possess anything. The canoe as such is extremely light and is, therefore, not suitable for transporting loads. Although it is hard to say definitely how much the articles necessary to the adults weigh, it is obvious that it cannot be much. At most, a large sea lion that a man has killed is loaded on.

The number of people that a given canoe can accommodate depends on their weight and the existing weather conditions. They

/433 cont./

• 501 [56]

A strange feeling comes over a European when he rides in it. At my request, Fred Lawrence had a bark canoe built by old Pedro for the Museo de Etnología y Antropología in Santiago de Chile (143). It has a maximum length of 413 centimeters and a

143. See the more detailed accounts in Gusinde (b):153.

maximum width of 103 centimeters. He handed it over to me at the beginning of 1920. Until it was loaded, this valuable piece was kept in a sheltered bay near Punta Remolino, so that it would not dry out and crack. I, therefore, seized the opportunity and took several trips in it, accompanied by Indians. This canoe is actually the last of its kind that the practiced hands of a Fuegian have built (144). At first sight it surprises one not a little that

144. I attach importance to this fact. This canoe is kept in the Museo Histórico de Chile at Santiago, with which the previously independent collection of the Museo de Etnología y Antropología has been combined since 1929. Since it was not used by a Fuegian family, Lothrop (b):143, Figure 70 was correct, with this qualification, when he wrote under the reproduction of an earlier photograph, presumably from the year 1895: "The last Yahgan bark canoe ever used" /cited in English/. Dabbene (b): 181 refers to the same vessel: "At the Talcahuano station I saw what I believe to be the last Fuego-bark canoe still in existence. It is not being used there and is preserved by the missionaries solely as a specimen of this ancient industry" /translated from Spanish/.

only a short section of the keel is in the water. If one is the first to step in, he must put his foot on the center line, otherwise the vessel lies almost completely to one side. Inside, no matter how short a step one takes in front of the other foot, the center of gravity shifts, which causes considerable rocking lengthwise.

/453 cont./

501 Every additional person stepping in changes the unstable balance of the entire vessel considerably. If, meanwhile, a painful feeling of uncertainty comes over the occupant,he will find this repeatedly accentuated in alternately stronger and weaker fashion throughout the trip, either because of a slight change in the current, a larger or smaller succession of waves, or, finally, because of gusts of wind for which the projecting canoe offers an extensive target area.

502 Every woman is amazingly skilled at paddling. She succeeds in preventing the vessel from bouncing jerkily with every stroke of the paddle and in making the slight zigzag line of the course less noticeable. Nevertheless, a person in the boat soon feels this movement. The longer it continues, the more it affects the general feeling of a European; uneasiness overtakes him, and in this situation of increasing uncertainty he longs for the moment when he can set foot on terra firma once again. No matter how often I told myself that my Indian companions were utterly reliable, every trip in a bark canoe was for me anything but soothing. The longer it lasted, the more sensitive I became to the slightest /454/ fluctuation in the equilibrium, and in the end I was nervously irritated. Our Indians, however, have long since become accustomed to these feelings: it is not that they have become insensitive to them, but with it all, their consciousness of safety and their long-tested reckless courage triumphs.

502 731 Out of this sense of them develop a certain blind confidence, together with an overestimation of their ability and their judgment of existing weather conditions. Thus, many a canoe capsizes, chiefly, however, because of the incalculable tricks of the weather in that region. Not at all infrequently a family is seized by a whirlwind in the middle of a wide stretch of water or is threatened by breakers that no one could anticipate; since the canoe moves slowly, all human effort is overcome by the superiority of natural forces (148). Many a casualty is remembered

148. We repeat here a sad incident related by Hyades (q):353: "A large number of Fuegians wanted to cross a bay in two canoes in order to look for fungi on the opposite shore; the overloaded canoes foundered, the sea being bad, and

/455 cont./

501 It takes boundless audacity to risk journeys to distant regions in an extremely fragile, completely unprotected vessel on treacherous waves. The vessel's construction shows its limited, brief durability. No matter how anxiously the wife tries to protect it, sooner or later and unavoidably the bark splits and cracks, if only because of the unequal heating of individual parts by the sun, and even more by many unavoidable blows, by the rough handling on the beach when it is brought to safety, and finally by the shifting load when the natives board and leave the canoe. True, the bark is flexible and it bends, but in doing so the firm cohesion of the finest fibers is loosened, which leads to visible breaks.

If a canoe is spared an actual accident and unusual damage, it serves a family who takes good care of it a whole year or somewhat longer. My Indian friends and my European informants assured me of this. Earlier reports mention lower figures. Hyades (g):38 and (q):304 writes: "In general one assumes that a good canoe will remain serviceable for not more than half a year (146), despite all the care that man and woman together

> 146. Bridges, too, says: The canoes "are very fragile, and it is necessary to make a new one every six months" (MM:III, 115; 1869) /cited in English/.

employ to preserve it." Despard (b):680 even says that "these canoes last only about three months" /cited in English/(147).

> 147. If this is true, his next sentence is most certainly correct: "So a man has to make a good many [canoes] in a few years, and must become pretty expert by the time he is 40" /cited in English/.

Dabbene (b):180, however, agrees with me that its "duration can be reckoned approximately at one year" /translated from Spanish/.

396 The uncertainty in this matter among European judges may have arisen from the fact that in the fall, as well as in the spring,

/457 cont./

E. Dugout Canoe and Skiff

501 177 With the tools that our Yamana had until they became more familiar with European iron implements, it was impossible for them to build any vessel other than the bark canoe which we have just described. It is only in the last fifty years that some men have built actual dugout canoes. Later they adopted the flat skiff.

1. The dugout. Without doubt our Yamana first saw this vessel in the possession of the neighboring Halakwulup. They had long before adopted it and occasionally appeared in the Yamana region. The Whites brought them the iron ax much earlier, and only with it were they able to hollow out a tree trunk properly. /458/ There is no difficulty in providing historical proof for this innovation among our southernmost Fuegians. In early July, 1876, Bridges (i):15 was on Isla Smoke in the Seno Ladrones, straight north of Stewart Island. Here he entered the following in his diary: "A native of these parts is on board, who by report is a maker of wooden canoes. It is very desirable for the sake of the Eastern natives to clear up the matter about these luputuj-emas, wooden canoes which have been for ages a source of continual fear to the Eastern" /cited in English/. The central and eastern Yamana groups actually do regard the extreme Westerners as murderers and cannibals, which is a subject we shall treat in detail below. On July 25, 1876, Bridges found such a specimen lying unused in the woods, "a hallowed /sic/ tree, 29 feet long, two feet through in widest part and three feet high. It is well hollowed out, but being so narrow is very crank and was left by its maker as of no use" /cited in English/. It was not until two years later, on February 2, 1878, that Bridges (i):16 saw the first fully occupied dugout in Yendegaia: "The wooden canoe of which we have heard so much came alongside this morning. It is a most ungainly object. It is very large and contains twenty persons easily. It was an immense piece of work" /cited in English/. Following this model (151), a few Yamana of the central areas also replaced

151. Lothrop (b):145, differing from my account, asserts: "The first dugout canoe used

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/488 cont./
by the Yahgan was made near Ushuaia about 1880 by an Indian known as John Furnes" /cited in English/. That "this innovation apparently was an independent invention" /cited in English/, I cannot accept; the above historical data are proof of this.

their ancient bark canoe (152). This is emphatically confirmed

152. The Yamana never adopted the actual raft, such as Bridges (1):16 saw for the first time on February 16, 1883, in the possession of the Halakwulup, which consisted of five long planks sewed together. They probably never adopted it because they soon learned how to build the skiff.

by a report in La Nature:275: "The Yahgan...more rarely hollow out the trunk of a tree and give it the shape of a canoe (during the entire year 'La Romanche' saw only one single vessel of this type)" /translated from French/.

In the following years this new form almost completely superseded the bark vessel in all sections of the Fuegian area (153).

153. On January 2, 1902, Mr. Pringle wrote: "The Yahgans now make very few bark-canoes; they mostly use dug-outs" (MM:XXXVI, 49; 1902) /cited in English/. Exactly two decades earlier Martial: 191 announced: "We have found in Beagle Channel one of these canoes hollowed out of the trunk of a tree" /translated from French/.

Dabbene (b):181 was impelled to confess: "Today this kind of vessel [of bark] is no longer made, and the one used at present by the Yahgan is hollowed out from the trunk of a tree" /translated from Spanish/. Furlong (b):126 also mentions without qualification that "the Yahgan constructs his canoe of a heavy beech

501 /458 cont./
177 log" /cited in English/:

For about 20 years the dugout actually did rule supreme, while the bark canoe became more and more scarce. Since then a flat skiff has made its appearance, and today every family owns one of them.

396 /459/ There is not much to say about the construction and form of the dugout. A sound trunk was needed for it, which Nothofagus betuloides usually offered. It had to be quite smooth, straight, and tall enough so that when it was finished it corresponded in length to the medium-sized bark canoe. It was about a third narrower than the latter, whatever the thickness of the selected trunk. The tree was felled with blows of an ax, and the upper part, along with the crown, was cut off. Then the stump was trimmed. After the bark was peeled off, a short section of the curvature of the trunk was cut away, the two edges of which later became the gunwale. Then the hollowing-out process began and continued until the walls were reduced to a thickness of three to five centimeters. The natural curvature of the outer surface was retained, and only the bow was made blunt at the end. The work was extraordinarily facilitated if the cross-cut at the end was not retained. Instead, a small, U-shaped board was nailed on, which had to be carefully caulked.

Sometimes the men made it easier for themselves by burning out the trunk, still upright, from below, but they guarded the fire well to make sure that the body of the prospective boat would not have holes in it. This procedure was advisable when the inner tissues of the trunk were largely rotten while the thick layer of wood fibers under the bark was still intact. One often finds such phenomena in the Antarctic beech forest.

The long open sides of the thin-walled body of the boat were widened at the top in the following manner. They spread a thick, protective layer of sand lengthwise and about 20 centimeters wide, and smeared the sides thickly with blubber. Then they placed glowing wood embers, evenly distributed, upon the entire layer of sand. The intense heat was transferred to the walls and made them somewhat expansible. This explains why every dugout looks as though it had been charred and burned. Suitable short thwarts squeezed in between the two side walls forced the latter apart and

/459 cont./

316 thus permanently widened the upper half. Once the tree trunk was hollowed out and closed off at the stern, no further additions were required and it could be put to use immediately. The natives had to be content with a small fire which they kept going throughout the trip in a square tin can.

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• 501 504 Compared with the bark canoe, however, which had served the Tamana for centuries as their sole means of transportation, the modern dugout had many disadvantages. It capsized much more easily because it was not resilient and did not yield in any way, and because it was at least a quarter shallower than the bark canoe. Besides that, it could be moved on land only with great difficulty. True, the natives also made a sort of toboggan slide for it out of fresh algae, tawhina, over which it was hauled up and down. In spite of that, all the members of the family had to exert themselves to the utmost, otherwise they could not budge it. The wood of the /459/ Antarctic beech is heavy. Finally, the dugout could almost never be anchored in the open channel when the rocky coast did not permit its being hauled up. It was too heavy and too slippery to become entangled in a mass of floating Macrocystis. Ropes made of bundles of rushes (Fig. 32) are too weak to keep the boat tied up near the coast. If, in spite of this, it could be left out in the water, the natives could almost always expect it to overturn (154). Righting it again

> 154. Lothrop (b):146 says of the dugout which he took back to New York, "it was the most unstable vessel in which the writer has ever set foot" /cited in English/.

required great effort on the part of the woman, and bailing it out took considerable time.

501 In most recent times the natives have improved the dugout very much by elevating the gunwale slightly all the way around with a strip of wood nailed or sewed on. This afforded greater safety on the trip, but also added considerably to the weight of the whole thing.

Undeniably the dugout is more durable, but in contrast to this one advantage there are great drawbacks. Hence it is not surprising that after a few attempts the families of those days

/460 cont./

50 abandoned this new invention. Today we run across an occasional dugout used for short trips; a new one has not been made for three decades.

501 126 On my second trip I brought back to the museum in Santiago (Gusinde [b]:145) a dugout that had for years lain in the woods untouched near the mouth of the Rio Douglas. As Lothrop (b):146 says: "the last double-ended dugout afloat was purchased and is now in the Museum [of the American Indian in New York]. When purchased it had been in the water many years and was unbelievably heavy" /cited in English/. In short, anyone who owns a dugout, like old Pedro, uses it as long as it is still serviceable; middle aged men have long since adopted the skiff. In a period of about 40 years the dugout came into use among the Yamana and disappeared again (155).

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155. In this connection Spencer:88 says briefly: "Bark canoe precedes dug-out, which has now and for some years past entirely replaced bark" /cited in English/.

376 604 [77] 2. The Flat Skiff. Since the sawmills were started on Beagle Channel by Europeans, the natives can easily obtain good boards of different thicknesses. They are also given nails and iron strips. If they cannot buy their own tools, they borrow them everywhere. They do not lack the skill to make a low, short skiff. It must be wide because it is short and low. They curve the gunwale and produce a noticeably elevated bow with a sharp keel that slants backward. This makeshift (156) has /461/ no advan-

156. Lothrop (b):146 gives a short description and an illustration of it.

tages over a European construction, except for the tin can that is placed in the center for the fire. In the forward part they nail a narrow wooden crosspiece with a small hole in the middle. Into this is placed a short mast. If a light breeze comes up from the rear, they hoist a piece of sacking, remnants of a woman's skirt,

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502 or some other rag as a sail on the yard, the end of which is tied to the edge of the boat by means of two or three thin ropes. Sometimes they are satisfied to stretch the rag between two strips of wood and hold it up high until their arms become tired (157).

157. Wieghardt:31 writes: "Some kind of rag or a seal skin is hoisted as a sail, sewed with ruth fibers to a small yard supported by a mast held in one of the crosspieces" /translated from Spanish/. Compare Martial:190. Formerly the Yamana did not know of this expedient, for, as Webster:I,184 maintains, "they never make use of a sail" /cited in English/.

501 171 This flat skiff no longer reveals anything of native art. It is only through Europeans that the last survivors of the Yamana people have been able to put together the skiff described here, which, compared to their original bark canoe, has many advantages. It permits them to use a sail, sétel, of some kind, which the light construction of the bark canoe would not permit. With this new vessel they also adopted the long oars which are not suitable for paddling because of their shape.

501 178 All the available historical sources, beginning with the first writings of the Dutch admiral L'Hermite, confirm, without exception, that the bark canoe was the only method of transportation of the Yamana until the last decades, and that it was always put together in exactly the same way (158). Its advantages and its

158. Cooper:197 likewise came to the conclusion that "throughout the whole territory, the bark canoes were constructed in the same way of three or more pieces sewed together, with thwarts and rips and with pointed ends" /cited in English/. Lovisato (a):199 regards the bark canoe as "the most ingenious work by these poor people of Fuegia, which, however, from Drake to us, for 300 years then, has remained the same" /translated from Italian/.

efficiency have been described in detail above. Every careful observer will admit that neither the dugout nor the flat skiff compare with the bark canoe in technical construction and suitable form.

1: Gusinde--584 E-S (1918-1924) 1937 SH6 Yahgan' SH6

/765 cont./

857 and the brown robber gull, <u>wilaylla</u> (<u>Megalestris skua chilensis</u>);
231 cormorants and penguins, which are too dirty, are less desirable. After the girls have become fond of such a bird in the course of a few weeks, they do not have the heart to kill it even if it would make a succulent roast. If one day it flies off, they follow it enthusiastically with their eyes and send good wishes after it.

857 As is well known, the bark canoe belongs entirely to the
868 woman (p. 135). For very obvious reasons the father makes a
581 small model of it for his daughter. It is like a larger canoe in every detail and is large enough for a single girl to sit in and row about. On my second journey I noticed a seven-year-old girl in Puerto Bobalo who was extraordinarily skillful in managing her vessel which was 145 centimeters long. Her father had previously given her a smaller canoe. It was a charming sight when one sunny day toward noon the mother set out in her boat and was accompanied by this daughter. Each of them steered her boat into a tangle of large brown algae /<u>766</u>/ and they began to fish. After three hours they returned to the landing place and the girl, too, had a few pieces of booty, to the delight of her father. More often a father will give his daughter a small paddle with which she strikes the water while standing on the shore.

857 If one sums up what a solitary girl has in the way of entertainment and play, diversion, and minor manipulations, it is clear that she is not condemned to boredom and that, on the contrary, many a day will be too short for her if she has become absorbed in her play. If several children are together in the same place, they choose other forms of entertainment.

7. Social Games

857 The designation "social games" does not precisely fit all the forms of diversion which are listed here; all I wish to express is that several children come together in them. Adults often take part in these games, but children are always in the majority.

857 By way of introduction it should be said that a tame, patient
231 dog is used by boys, as well as girls, for all kinds of jests and mad pranks. It sometimes seemed impossible to me that such an animal would take so much from foolhardy boys! They tug him around

J: Cooper E-4 (no date) 1946 Sitk Yahgan Sitk

Red Symbolized Peace

white, war and ritual; black, mourning. Designs were very simple, confined to lines, dots, and, less commonly, circles.

Ornaments.—Personal adornments were: necklaces, of sections of bird leg bones strung on braided sinew, of strung punched shells (*Photinula violacea*), or of frapped hanks of braided sinew, often colored red; bone or shell pendants, sometimes attached to the necklaces; and wristlets and anklets of sinew and hide. Feather diadems and bird-skin, feather, or down-ornamented fillets or forehead caps were also used.

TRANSPORTATION

Canoes.—Travel by the *Yahgan* was almost entirely by water. Their earlier sole form of watercraft was the built-up bark canoe, of a crescent or gondola shape that characterizes other craft well up the west coast of South America to Perú; the plank boat, the *Araucanian* dugout, the seal-hide float, and the double-ended reed balsa were absent (Lothrop, 1932 a, pp. 253–54).

The *Yahgan* canoe (pls. 34, 35) was made of three strips of beech bark, one-half inch to more than an inch (1.2 to 2.5 cm.) thick, which ordinarily formed the bottom and two sides respectively. Average length was about 15 feet (5 m.), with a range from about 12 to 20 feet (4 to 7 m.); gunwale to gunwale width in center, about 3 feet (1 m.); depth in center, about 2 feet (0.6 m.). The bark, taken only from the evergreen beech (*Nothofagus betuloides*), was stripped off in the spring, when the sap was running. In removing the bark from the tree, the natives used a bone chisel or mussel-shell knife to cut it and a bone barking tool to strip it, and in ascending the tree held themselves thereto with a strong rawhide thong. After smoothing the bark on both sides with a small chisel, they cut it into three cigar-shaped pieces. These pieces were then sewn together with whalebone or with shreddings of warmed saplings, the seams being waddled with the stringy seams of wild celery grass or with moss mixed with mud. The gunwales were next lashed on. The ribs, of split Winter's bark, were then fitted in and locked in place under the gunwales. The thwarts, usually five or six, of hardwood, were inserted and lashed to the gunwale.

The fireplace was set amidships. The paddle was in one piece with a long lanceolate blade and short round-section handle without crosspiece or other grip. The *Yahgan* canoe leaked much; the cylindrical bailers (pl. 33, *e*) were usually of bark or sealskin. Sealskin thongs and braided grass ropes were used as mooring lines. The construction and repair of the canoe were the man's task; but its management, including paddling and mooring off shore in a kelp bed, were the woman's. In a sense, she was mistress of the canoe, with its hearth and ever-lighted fire. In a favorable wind a crude sail, made of a sealskin or

2: Cooper E-4 (no date) 1946 S265 Yahgan S265

of several skins were together, was sometimes set up—a practice whose origin, native or European, is uncertain. (For details on manufacture and use of canoe, cf.: Lothrop, 1928, pp. 149-161; 1932 a, pp. 281-283; Gusinde, 1937, pp. 435-437.)

After about 1880 the *Yahgan* began to give up their traditional bark canoes, and to adopt the dugout. Still later, prior to Lothrop's visit in 1924-25, the dugout had been entirely superseded by the dory, of European type and origin.

The *Yahgan* never adopted the plank boat from their *Alacaluf* neighbors and never used rafts or skin-covered watercraft, so far as our records reveal.

MANUFACTURES

Pottery, weaving, and metallurgy were entirely absent; no traces of pottery have been discovered archeologically in *Yahgan* territory.

String-making and sewing.—Plant fibers, plain, shredded, or braided, were used in basket making, canoe sewing, and for mooring lines, respectively; braided whale sinew, for necklaces, fishing lines, and tool and weapon lashings; braided guanaco sinew, for bowstrings; whalebone, in sewing canoes and for bird snares and fishline rovers; seal-hide thongs, for tool and weapon lashings, harpoon lines, basket handles, mooring lines, and bowstrings. Awls were made of bone and wood, unhafted. The drill was lacking.

Basketry.—Four techniques in basket making were in use: (1) Simple half-hitch coiled, the commonest type (fig. 13, *top*); (2) twined half-hitch coiled, rarer (fig. 13, *center*); (3) knotted half-hitch coiled, not common (fig. 13, *bottom*); (4) a sort of wrapped type. The first three were of excellent craftsmanship; the last, very crudely woven, and used only as a dip net for catching very small fish. The material for all four was a rush (*Juncus megalliensis*). The coiled baskets were more or less oblong-spheroid in shape, and had a carrying handle of thong or plaited rush (pl. 23, *c*).

Skin dressing.—No process of dressing proper is reported. Seal-skins were stretched on the ground, covered with grass and moss, and left so for a while, to help dehair them. Drying frames were apparently used. The scraper consisted of a mussel shell lashed to a cylindrical stone haft. The *Yahgan* made thongs flexible by drawing them through their teeth or by chewing them.

Stoneworking.—Little use of worked stone was made except for arrowheads and, rarely, scrapers. The workmanship was crude. Archeologically, there are some traces of stone pecking and polishing (Lothrop, 1928, p. 203; cf. Bird, 1938).

Containers.—Cylindrical buckets (pl. 23, *a*), of *Nothofagus betuloides* bark, for carrying and holding drinking water and for boiling, were made by the woman, with the use of a barking tool dif-

3: Lothrop E-9 (1924-1925) 1928
SH6 Yahgan SH6

principal purpose for which such stones were used was opening shellfish. These stones never were hafted.

6. SHARPENING STONES.—For sharpening knife and scraper blades the Yahgan employed a smooth stone (*chépi*) such as is shown in fig. 66, *h*. They can frequently be picked up on old camp-sites. The rounded hammerstones may also have been employed for sharpening.

7. PUMICE.—For polishing, in place of our sandpaper or the Ona fox-skin and grit, the Yahgan used pumice (*kóli*). This material (fig. 71) is found on Picton island and on the coast of Tierra del Fuego to the north. It frequently floats down Beagle channel and may be picked up on the beach.

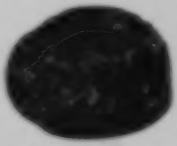

FIG. 71.—Yahgan pumice polisher. Length, 2¼ in. (14/2224)

BOATS AND BOATING

BARK CANOE

In the old days the Yahgan used a curved bark canoe which in outline is well described by Gusinde's phrase, "like a moon of four days, with raised tips." The last one ever afloat is shown in fig. 72.

FIG. 72.—The last Yahgan bark canoe ever used. (Courtesy of Rev. John Williams.)

The bark employed (*shirakun*) was taken from the evergreen beech (*Nothofagus betuloides*), known to the Yahgan as *súschi*. It had to be stripped from the tree in the spring (October or November) when the sap was rising. For this purpose a tool made from the jaw-bone of a whale (*shunkot*) was employed (fig. 67), and the

3: Lothrop E-5 (1924-1925) 1928
SHS Yahgan SHS

396 men ascended the tree by means of a thong of seal-skin (*uwevsk*). An industrious and forehanded man often removed two pieces of bark at the right season of the year in case his canoe might be wrecked. The extra piece was placed under water in a running stream to keep it flexible and was held there by means of stones. The piece intended for immediate use was scraped with a shell scraper (*iwwif'ne*) until the fat inner bark (*ushkeg*) had been removed. The bark was then cut to pattern, three cigar-shape pieces usually serving for the skin of the canoe.

The bark was next tightly sewn together with pieces of whalebone, or, if none were obtainable, with saplings warmed before the fire and shredded when very hot. Split saplings were then set close together for ribs (*ushkilakin*), and the ends of these were held in place by tapering gunwales (*uwrri*) lashed to the bark sides (fig. 73).

• [501]

FIG. 73.—Model of Yahgan canoe. Length, 40½ in. (14/4331)

Across from gunwale to gunwale, thwarts, usually six in number, were lashed in order to keep the sides from collapsing. Finally the slender bow and stern were joined to the nearest thwart by a seal-hide thong or a braided grass rope in order to give additional strength to the extremity of the vessel.

To complete the canoe a fireplace (*af*) was installed amidships, for even in these days of matches and European clothes no Yahgan goes to sea without his fire. The fireplace consisted of a heavy piece of sod with much earth attached. Over this was a layer of pebbles, and the whole was soon covered with ash. In the bow a rest for harpoons was installed.

3: Lothrop E-5 (1924-1925) 1928
5316 Yahgan 5316

When fully equipped, the Yahgan canoe carried the following articles: 501

two or more paddles	dip-net
three kinds of baskets	club
two fire-tongs	grass mooring rope or thong
four spears (fish, seal, crab, and limpet)	bark bucket
	fish-line.

Such was the bark canoe in which these Indians often ventured far from shore and even attacked whales. Its great virtue was that it could be made with few tools; indeed in an emergency it could be created with no more than fire and a knife. Furthermore, its high pointed ends made it seaworthy. On the other hand, the seams often leaked and the beech-bark is brittle—much more so than the birch-bark of the North American canoes. The canoes of bark found nearest to Tierra del Fuego are those of Brazil. Their construction is so different, however, that there seems no possibility of relationship between the two types.

DUGOUT CANOE

The first dugout canoe used by the Yahgan was made near Ushuaia about 1880 by an Indian known as "John Furness." 501 176 177 This innovation apparently was an independent invention, instigated through the introduction of metal tools during the previous decade. At any rate the idea rapidly became popular, for the advantage of the stronger construction over the bark canoe was patent, and indeed the Alacaluf soon seized upon this type and abandoned their plank canoes.

FIG. 71a.—Yahgan dugout canoe. (Courtesy of J. L. Weld, Esq.)

9: Lothrop E-9 (1924-1925) 1928
5306 Yahgan 5306

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In outline the dugout canoes resembled their bark prototypes, modified by the material of which they were wrought. Thus, through inaptitude or a fault in the wood, one end sometimes was not pointed but was cut off square. Into the opening a tail-board was then fitted. This usually leaked. The sides of the canoe often were raised by nailing on boards.

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FIG. 74.—Modern Yahgan boat. (Courtesy of J. L. Wolf, Esq.)

With the coming of Europeans the Yahgan adopted the use of oars and sails. The latter were raised on temporary masts and could be employed only when running before the wind.

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The Yahgan bark canoe has gone entirely out of use today, and the writer was unable to discover an Indian competent to make one properly, although models can yet be obtained. The dugout canoe is still in use, but it is many years since a new one has been launched. The last double-ended dugout afloat (fig. 73a) was purchased and is now in the Museum. It is 16 feet 6 inches long, 3 feet wide, and 2 feet 7 inches deep. When purchased it had been in the water many years and was unbelievably heavy. Also it was the most unstable vessel in which the writer has ever set foot.

DORY

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Today the few surviving Yahgan use a flat-bottom dory with square stern and high-pointed bow (fig. 74). This boat is of European manufacture and carries no mark of native identity except a fireplace. Today the fireplace is no picturesque affair of sod, but usually is an upright five-gallon gasoline tin, half-filled with stones, and with a hole cut in the side to facilitate the draft.

3: Lothrop K-5 (1924-1925) 1928
5995 Yahgan 2005

PADDLES

The old-fashioned paddle (ápi) had a long pointed blade and a short rounded handle (fig. 75). The blade was diamond-shape in

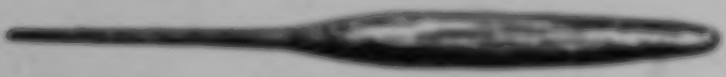

FIG. 75.—Yahgan paddle. (After Hyades and Deniker.)

section, so there was a keel-like ridge centrally down each side. Today most of the blades have rounded tips, a shape which the Yahgan may well have adopted from the Alacaluf.

The women, who were the paddlers, often joined their men folk in fighting, using their paddles with deadly effect.

MENDING ROPES

Canoes were moored either with a seal-skin thong (mawrsh) as shown in fig. 76, or more commonly with a braided grass rope (shukowel) such as is seen in fig. 77. The process of braiding the rope is illustrated in fig. 56.

FIG. 76.—Yahgan seal-hide thong. Diameter of coil, 9 in. (142264)

CANOE BAILER

As all the Yahgan canoes leaked more or less, some kind of a bailer was imperative to keep them afloat. For this purpose a bark bucket like the water-bucket, but not so tall, normally was used (fig. 78). The writer has seen small seal-skin buckets said to have been used for this purpose.

CARE AND MANAGEMENT OF THE CANOE

The canoe was paddled by the women, who sat in the stern, while the men crouched in the bow to cast the spears. When paddling, owing to the short handle, one hand was under water.

1: Cooper E-4 (no date) 1946 SH5 Tehuelche

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[p. 160 B]